UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,471	06/21/2001	Arto Kangas	P280086	7635

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EXAMINER
GREY, CHRISTOPHER

ART UNIT	PAPER NUMBER
2667	

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/807,471	KANGAS ET AL.
Office Action Summary	Examiner	Art Unit
	Christopher P Grey	2667

-- The MAILING DATE of this communication appears on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 June 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-23</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-23</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>6/21/05</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Drawings

1.   Figure 3 is objected to because of the following informalities: element 304

incorrectly spells capacity.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-4, and 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Erjanne (US 6490271) in view of Oomuro et al. (US 5258979)

Claim 1, 19   Erjanne discloses a method by which mobile stations (terminals) are

connected through an inter-working (claim 19) unit (network element). The inter-working

unit is adapted to monitor data flow (end to end connection) to obtain a reference value.

Erjanne also discloses a threshold value (predetermined condition) that is compared to

the reference value, and resource modification is applied where necessary (Col 3 lines

8-24). Erjanne does not specifically point out a detected event indicating a difference in

the allocated capacity between a first and second connection part. Erjanne also does

not disclose changing the capacity of the first connection part.

Oomuru et al. (Oomuru 'hereinafter') discloses first and second terminal equipment sending bandwidth requests (allocated capacity) to an analyzing means. The analyzing means compares the received bandwidths and determines a suitable bandwidth. The analyzing means then sends the suitable bandwidth to both terminal equipments, triggering a bandwidth changing means. The bandwidth changing means changes the allocated bandwidth of the first terminal to a new allocable bandwidth (Col 6 lines 30-62 and Col 7 lines 8-22).

Therefore it would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the inter-working unit disclosed by Erjanne with the analyzing and bandwidth changing means as disclosed by Oomuru. The motivation for this modification is to achieve optimal traffic control and efficiently utilize the resources of the network (Col 2 lines 5-10).

Claim 2, 20   Erjanne discloses monitoring, defining, checking and changing, but not being performed for an uplink and a downlink.

Oomuru discloses a traffic monitoring means (Col 5lines 43-45), judgment means (Col 5 lines 50-57), an analyzing means, and a bandwidth changing means (Col 6 lines 48-62), which are all applied to both terminals (uplink and downlink).

The motivation is the same as that for claim 1.

Claim 3   Erjanne discloses resource upgrading and downgrading (Col 4 line 56-Col 5 line 8). Erjanne discloses monitoring, defining, checking and changing, but not being performed for an uplink and a downlink.

Oomuru discloses a traffic monitoring means (Col 5lines 43-45), judgment means (Col 5 lines 50-57), an analyzing means, and a bandwidth changing means (Col 6 lines 48-62), which are all applied to both terminals (uplink and downlink).

The motivation is the same as that for claim 1 and furthermore to increase the control of data transfer and resources (Erjanne: abstract).

Claim 4, 21   Erjanne discloses resource downgrading and upgrading (Col 4 line 56-Col 5 line 8) and a threshold value (predetermined condition) that is compared to the reference value (Col 3 lines 8-24). Erjanne discloses monitoring, defining, checking and changing, but not being performed for an uplink and a downlink.

Oomuru discloses a traffic monitoring means (Col 5lines 43-45), judgment means (Col 5 lines 50-57), an analyzing means, and a bandwidth changing means (Col 6 lines 48-62), which are all applied to both terminals (uplink and downlink).

The motivation is the same as that for claim 1 and furthermore to increase the control of data transfer and resources (Erjanne: abstract).

Claim 6   Erjanne discloses a frame used for information transfer and supervisory information piggyback. Furthermore these frames are measured against a threshold (Col 7 lines 5-30). One skilled in the art can appreciate the capability of carrying supervisory information as the same as carrying padding/fill-in frames and using that as an extent of a detected event. The motivation is the same as that for claim 1 and furthermore to increase the control of data transfer and resources (Erjanne: abstract).

Claim 7   Erjanne discloses triggering a flow control, and furthermore a flow control
threshold (Col 6 lines 7-36) One skilled in the art can appreciate the duration of flow
control being used to indicate a detected event. The motivation is the same as that for
claim 1 and furthermore to increase the control of data transfer and resources (Erjanne:
abstract).

Claim 8   Erjanne discloses the amount of data being stored in a buffer being
monitored and compared to a threshold (Col 5 line 61- Col 6 line 6). One skilled in the
art can appreciate the amount of data in these buffers defining the extent of an event.
The motivation is the same as that for claim 1 and furthermore to increase the control of
data transfer and resources (Erjanne: abstract).

Claim 9   Erjanne does not disclose the event being information received from the
other connection part and the extent of that even being defined by a difference.

        Oomuru discloses second terminal equipment communicating a bandwidth
(capacity) to a network, where this bandwidth is compared (difference) to a bandwidth
from a first terminal equipment (Col 6 lines9-28). The motivation is the same as that for
claim 1.

Claim 10, 22 Erjanne discloses the data transfer over an air (claim 22) interface
(abstract) and in a mobile communication system (Col 3 lines 8-24). The motivation is
the same as that for claim 1 and furthermore to increase the control of data transfer and
resources (Erjanne: abstract).

Claim 11   Erjanne discloses a method by which mobile stations (terminals) are
connected through an inter-working unit (network element). The inter-working unit is

adapted to monitor (maintain) data flow (end to end connection) to obtain a reference

value (Col 3 lines 8-24). Erjanne does not specifically disclose comparing the capacities

of the first and second leg, and changing the capacity of the first leg.

Oomuru et al. (Oomuru 'hereinafter') discloses first and second terminal

equipment sending bandwidth requests (allocated capacity) to an analyzing means. The

analyzing means compares the received bandwidths and determines a suitable

bandwidth (same as second terminal). The analyzing means then sends the suitable

bandwidth to both terminal equipments, triggering a bandwidth changing means. The

bandwidth changing means changes the allocated bandwidth of the first terminal to a

new allocable bandwidth (Col 6 lines 30-62 and Col 7 lines 8-22 and fig 3).

Therefore it would have been obvious to one of the ordinary skill in the art at the

time of the invention to modify the inter-working unit disclosed by Erjanne with the

analyzing and bandwidth changing means as disclosed by Oomuru. The motivation for

this modification is to achieve optimal traffic control and efficiently utilize the resources

of the network (Col 2 lines 5-10).

Claim 12   Erjanne does not disclose transmitting capacity change information

associated with the first leg to the second leg.

Oomuru discloses an analyzing means, which notifies first and second terminal

equipments of a bandwidth change (Col 6 lines 48-62). The motivation is the same as

that for claim 11.

Claim 13   Erjanne does not disclose transmitting an indication of the change of

capacity of the first leg to the second leg, receiving an indication of the capability of

capacity change of the second leg and changing the capacity of the first leg when the

second leg is capable of the corresponding change.

Oomuru discloses setting up a call by transmitting a requested bandwidth to the

network. An available bandwidth (intention to change capacity) for a second leg is

responded to the request. The bandwidth is changed to the allocable bandwidth in order

for a connection to take place (see fig 4). Oomuru also discloses the network

transmitting the capability of the second terminal equipments bandwidth change (see fig

6). The motivation is the same as that for claim 11.

Claim 14   Erjanne discloses performing an upgrade request (indication) when the

amount of data (capacity) exceeds a threshold (predetermined minimum amount),

otherwise no upgrade is necessary (Col 6 line 20-49). Erjanne does not disclose

receiving an indication of the capability of capacity change of the second leg.

Oomuru discloses setting up a call by transmitting a requested bandwidth to the

network. An available bandwidth (intention to change capacity) for a second leg is

responded to the request (see fig 6). The motivation is the same as that for claim 11.

Claim 15   Erjanne discloses a method by which mobile stations (terminals) are

connected through an inter-working unit (network element). Erjanne discloses the data

transfer over an air interface (abstract) and in a mobile communication system (Col 3

lines 8-24). Fig 1 shows a plurality of mobile stations communicating with each other

through different BTS's (first and second network element). Erjanne does not

specifically point out the first network being configured to maintain information on the

capacity of a first leg, receive information on the capacity of the second leg, compare

the capacities of first and second legs and based on a difference changing the capacity.

Erjanne also does not disclose the second network element being configured to transmit

information associated with the capacity of the second leg to the first network element.

Oomuru et al. (Oomuru 'hereinafter') discloses first and second terminal

equipment sending bandwidth requests (allocated capacity) to an analyzing means. The

analyzing means compares the received bandwidths and determines a suitable

bandwidth. The analyzing means then sends the suitable bandwidth to both terminal

equipments, triggering a bandwidth changing means. The bandwidth changing means

changes the allocated bandwidth of the first terminal to a new allocable bandwidth (Col

6 lines 30-62 and Col 7 lines 8-22). Oomuru discloses setting up a call by transmitting a

requested bandwidth to the network. An available bandwidth (intention to change

capacity) for a second leg is responded to the request. The bandwidth is changed to the

allocable bandwidth in order for a connection to take place (see fig 4).

Therefore it would have been obvious to one of the ordinary skill in the art at the

time of the invention to modify the inter-working unit disclosed by Erjanne with the

analyzing and bandwidth changing means as disclosed by Oomuru. The motivation for

this modification is to achieve optimal traffic control and efficiently utilize the resources

of the network (Col 2 lines 5-10).

Claim 16   Erjanne does not disclose the second network element being configured

to transmit information associated with the capacity of the second leg to the first network

element in response to a capacity change of the second leg.

Oomuru discloses an analyzing means, which notifies first and second terminal

equipments of a bandwidth change (Col 6 lines 48-62). The motivation is the same as

that for claim 15.

Claim 17   Erjanne does not disclose the first network element being configured to

inquire of the second network element whether the capacity of the second leg can be

changed and configured to change the capacity of the first leg only if the capacity of the

second network element can be changed, and wherein the second network element is

configured to receive the inquiry relating to changing the capacity of the second leg and

to transmit information associated with potential capacity change of the second leg in

response to the inquiry relating to changing the capacity.

Oomuru discloses setting up a call by transmitting a requested bandwidth to the

network. An available bandwidth (intention to change capacity) for a second leg is

responded to the request. The bandwidth is changed to the allocable bandwidth in order

for a connection to take place (see fig 4). Oomuru also discloses the network

transmitting the capability of the second terminal equipments bandwidth change (see fig

6). The motivation is the same as that for claim 15.

Claim 18   Erjanne discloses an inter-working unit as a network element (Col 3 lines

8-24). The motivation is the same as that for claim 15.

Claim 23   Erjanne discloses performing an upgrade request (indication) when the

amount of data (capacity) exceeds a threshold (predetermined minimum amount),

otherwise no upgrade is necessary (Col 6 line 20-49). Erjanne does not disclose

receiving information indicating an intention to upgrade the capacity and checking the

available capacity of the second leg.

Oomuru discloses setting up a call by transmitting a requested bandwidth to the

network. An available bandwidth (intention to change capacity) for a second leg is

responded to the request. The bandwidth is changed to the allocable bandwidth in order

for a connection to take place (see fig 4). Oomuru also discloses the network.

transmitting the capability of the second terminal equipments bandwidth change (see fig

6). The motivation is the same as that for claim 11.

3.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Erjanne

(US 6490271) in view of Oomuro et al. (US 5258979) in further view of Wallentin et al.

(US 6347091)

Claim 5   The combined inventions of Erjanne and Oomuru do not disclose a

smaller downgrade amount allowed if a downgrade amount allowed by the uplink side is

a different downgrade amount from a downgrade amount by the downlink side.

However, Walletin et al. (Walletin 'hereinafter') discloses the monitoring of data in both

the uplink and downlink direction, and the selection (upgrade or downgrade) of a

channel type (capacity) based on these measurements (Col 6 lines 27- Col 7 line 22).

Therefore it would have bee obvious to one of the ordinary skill in the art at the

time of the invention to modify the combined inventions of Erjanne and Oomuru with the

measurements and decision block disclosed in Walletin. The motivation for this

modification is to achieve an optimal state by dynamically adapting (upgrading or

downgrading) a connection (see abstract).

Conclusion

4.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

(a) Rasanen (US 6201976) discloses a transmission method including an inter-

working function that buffers data and uses flow control to support a given rate.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Christopher P Grey whose telephone number is

(571)272-3160. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Christopher Grey
Examiner
Art unit 2667

AFSAR QURESHI
PRIMARY EXAMINER